



Palo Alto Baylands Recreation for Youth and Their Families: Final Programmatic Report (AMENDED)

Recipient Organization/Agency: Environmental Volunteers, Inc.

Date Submitted: June 20, 2014

Project Period: 7/01/2013 to 7/31/2014

Award Amount: \$14,954.73

Matching Contributions: \$15,060

Total Disbursement: \$14,954.73

Project Number: #8006.12.033513

1. Summary of Accomplishments

Key project accomplishments include:

- Introducing 743 people of all ages to their local natural baylands and shoreline heritage and providing opportunities for the health-enhancing interaction between nature and individual.
- Establishing several popular community programs that will continue to serve people of all ages for years to come, including Canoeing the Baylands and our Junior Naturalist after-school program.
- Strengthening connections with East Palo Alto organizations, and developing our collaboration so that we can work together to serve more low-income community members with free baylands education programming.
- Testing and strengthening of program curricula. For example, we learned that canoe sessions are best with smaller groups than anticipated and when offered only in warmer months. The development of an expanded 5-day Junior Naturalist curriculum gave children a deeper learning experience.
- Establishing Family Naturalist Days in order to engage Junior Naturalist participants in returning to the EcoCenter to engage their families in Baylands learning and recreation.
- Receiving considerable press and attention, resulting in additional funding so that the programs may continue to serve the community.
- Offering high-quality baylands education and recreation to community members – many of whom are underserved and are not able to otherwise afford nature-learning programs – with cost-free and accessible programming.

Recreational benefits include:

- 95 people canoed in marshland sloughs of the bay;
- 28 children hiked through the Baylands Nature Preserve; and
- 620 people spent time walking through the baylands and observing nature.

2. Project Activities & Outcomes

Activities

Canoe Ecology and Exploration Program

The program served 95 people over 6 trips. All 95 participants received the program free of cost. We served 25 fewer people than originally planned because, during the development of this program, we adjusted our safety procedures so that at least one adult was in every boat during youth canoe trips. This resulted in spaces being taken up by volunteers rather than youth program participants. However, we felt that this was an important change so that we could serve youth in the safest manner possible. Additionally, fewer canoes were available to us than we anticipated, which meant that we could serve fewer people on each canoe trip. In order to make every effort to get as close to our goal as possible, we added additional canoe trips.

During the canoe trips, participants were able to explore the Baylands and view their local ecology up close. Canoers participated in discussions around environmental stewardship and Baylands ecology. Each trip included Citizen Science activities, which taught the public the ways they could participate in collecting important scientific data. Citizen Science activities included weather observations, water quality testing, and wildlife monitoring. Instead of holding the program during each of the four seasons (as initially intended), we realized that, due to weather and tide patterns, scheduling the canoe sessions for warmer months only (May-September) versus year-round allowed us to serve a wider variety of community members in terms of age and physical ability.

All canoe trips met safety guidelines and were led by a qualified guide. In preparation for the program, all volunteer canoe guides were given extensive training in water skills and safety.

Outcomes of the program include:

- The development of a fun and engaging canoe program that is accessible to community members with a variety of physical abilities;
- The training of multiple volunteers to safely assist the canoe program;
- 95 community members spending time recreating in the Baylands Nature Preserve; and
- 95 community members learning about flora and fauna of the marshland sloughs and what they can do to protect it.

EcoCenter Programs

Our Junior Ranger program was renamed the “Junior Naturalist” program. The program was initially proposed as a 4-day program. However we were able to serve some participants with a 5-day program to give students a deeper experience. Each participant received at least eight hours of hands-on science instruction grounded in nature and experiential learning. Highlights of the program include:

- Students learning about the physiology of fish and marine life by interacting with living fish caught from the San Francisco Bay, examining non-living specimens of bass and salmon, and even seeing and touching a live leopard shark. In the process, students learned about the adaptations of various fish species, the water conditions that support life in the San Francisco Bay, and the macroinvertebrates that provide a critical food source for birds and fish in the Baylands.
- Students completing conservation pledges to continue positive environmental actions including conserving water, teaching others about the environment, refraining from littering, spending at least 30 minutes outside each day, and re-visiting the EcoCenter to continue their learning.
- Inviting all students and their families back to the EcoCenter for a special Family Naturalist Day.

The program provided 28 youth with free after-school programming, and a total of 48 kids were served by the program. We adjusted the age requirements of the program from 8+, to 8-10 years old, in order to ensure that program activities were designed to be developmentally appropriate, engaging, and challenging for a specific

age group, and so that the Junior Naturalist program could serve to reinforce the learning that we do in local elementary schools.

Our goal for the rate of return of program participants to the EcoCenter was 70%. As we assessed our progress towards meeting this goal halfway through the grant period, we learned that we were falling short of this goal, as only 50% of youth who participated in the Junior Naturalist program returned to the EcoCenter for other programming. In order to address this, we created Family Naturalist Days as an opportunity for Junior Naturalists to return to the center. We held two Family Naturalist Days, attended by a total of 17 people. Although the number of returning participants was small, those who did return brought their families and demonstrated their learning to caregivers and siblings, resulting in learning that can be reinforced in the family. In the future, we will continue to offer Family Naturalist Days as a way to integrate caregivers and siblings into programming and EcoCenter events.

To evaluate program satisfaction and impact on participant knowledge and attitudes, we collected post-program evaluations from Junior Naturalist student participants and their family members, and conducted qualitative evaluations of student journals. Findings include:

- All students rated the program Above Satisfactory (a score of 8 or above on a 10-point scale), with the exception of one student who rated the program as Below Satisfactory.
- Student journals revealed that students demonstrated a high level of recall of subject matter for each day (i.e. the four groupings of local birds, the anatomy of fish) and were able to state at least one thing they learned or enjoyed about their day.
- Qualitative feedback from students also revealed satisfaction with the program and the learning it inspired, such as this quote from a scholarship recipient: “The volunteers are very smart and I liked how they helped me learn more about the baylands and I like how they help me a lot.”
- 100% of family survey respondents rated the program as Above Satisfactory. Qualitative responses include: “My child could not wait to come back for the next class”; “The kids do not just stay in a room, but go outside to experience nature”; “My child pointed out the tides to me and seemed fascinated by it!”; “[My child was] looking forward to it each week, constantly talking about it after attending.”

Outcomes of the program include:

- The development and launch of a popular after-school program;
- 28 children learning about marine life and marine ecology of their local marshland; and
- 28 children spending time recreating in the Baylands Nature Preserve and learning what they can do to protect nature in this region.

Citizen Science program

Our Citizen Science program served 620 people with free programming, more than doubling our goal of serving 300 people. Activities included gathering data on weather (temperature, wind speed, and barometric air pressure); water (high tide and low tide times, pH, dissolved oxygen, and water temperature); and wildlife observations (migratory and resident bird species, fish, macroinvertebrates, aquatic life, mammals, and reptiles).

Outcomes of the program include:

- The development of multiple opportunities for community members to learn how to collect scientific data on nature;
- The opportunity for community members to add the scientific data they gathered to a national database tracking relevant information;
- 620 people learning to gather data on weather, water, and wildlife; and
- 620 people spending time recreating in the Baylands Nature Preserve and observing nature and learning what they can do to protect nature in this region.

Additional activities

We collaborated with East Palo Alto organizations, including the Boys & Girls Club and elementary schools in the Ravenswood City School District, to help engage the community in the project.

We collaborated with Baylands Rangers Richard Bicknell and Lisa Myers on the project. The rangers advised the development of our Canoeing the Baylands program and engaged Junior Naturalist youth in discussions about the Baylands and careers in parks services.

Benefits

The following are proposed benefits and our progress towards achieving these benefits:

- Participants will discover, learn about, and bond with the natural world.
 - As a result of the project, 743 people discovered and learned about baylands ecology, and spent time bonding with nature.
- Participants will engage in baylands and shoreline recreation activities that some participants would not otherwise be able to access or afford.
 - As a result of the project, 743 people engaged in baylands and shoreline recreation. Because the program focused on serving under-resourced community, the program served many people who would not have otherwise had the resources to access high-quality nature learning and recreation.
- Participants will explore ecosystems and nature preserves previously inaccessible to them and develop an increased appreciation of, and connection to, the baylands and shoreline.
 - The program provided nature-exploring opportunities that are not readily available to most community members. Our canoe program allowed participants to view marshland ecology up close, from just a few feet away, rather than from a distance. Several program participants reported in qualitative surveys that they developed an increased appreciation of baylands and the shoreline as a result of this project.
- Participants will broaden their understanding of the fundamental principles of baylands ecology.
 - Programs introduced participants to baylands ecology learning on topics such as marine ecology, marshland flora and fauna, as well as the unique opportunity to learn to use complex equipment to scientifically gather and report data about weather, water, and wildlife.
- Participants will learn how they can be stewards of the Baylands, and inspire others to care for the planet.
 - Program participants were engaged in discussions about what they can do in their lives to positively impact nature.
- Through an increased sense of environmental stewardship, the public will increase their efforts to protect baylands and shoreline habitats.
 - As a result of the project, 28 students pledged to continue positive environmental actions, including conserving water, teaching others about the environment, refraining from littering, spending at least 30 minutes outside each day, and re-visiting the EcoCenter to continue their learning.

3. The Future

This grant has been instrumental in allowing the Environmental Volunteers to develop and pilot new baylands and shoreline educational and recreational programming for the community. When we first received the grant, we were about to embark on building programming for our new EcoCenter, which opened to the public in July 2012. As of the completion of this grant period, we are happy to report that each of the programs that were supported by this grant have been expanded and will continue for years to come. Each program has received high praise from participants and has benefited from testing and participant feedback. We have additionally embarked upon a process to strengthen each curricula and program plan in order to best serve the community.

The Canoeing the Baylands has been so popular that sessions fill up almost immediately after we share the opportunity with the community. The Junior Naturalist program is so popular that we have a large wait list for

the program. And our Citizen Science program has given us plentiful opportunities to find new ways to engage the community in data collection and observation. For example, we received a grant to install a research-grade weather station on the roof of the EcoCenter. Data gathered by the station will be relayed to our interactive touchscreens, allowing community members to observe and monitor data as it is gathered and to track changes over time.

4. Lessons Learned

Canoe trip safety and capacity

During the development of our Canoeing the Baylands program, we adjusted our safety procedures so that, on youth canoe trips, at least one adult was in every boat. This resulted in spaces being taken up by volunteers rather than youth program participants. However, we felt that this was an important change so that we could serve youth in the safest manner possible.

Canoe trip timing

Instead of holding the Canoeing the Baylands program during each of the four seasons (as initially intended), we realized that, due to weather and tide patterns, scheduling the canoe seasons for warmer months (May-September) instead of year-round allowed us to serve community members with a greater range of ages and physical abilities.

Junior Naturalist program length

The program was initially proposed as a 4-day program. However we were able to serve some participants with a 5-day program to give students a deeper experience. We expanded the program because it was so popular that several parents and caregivers requested that we augment the program.

Family Naturalist Days

We initiated Family Naturalist Days in order to increase the rate-of-return for Junior Naturalist participants. This resulted in youth returning to the EcoCenter and bringing caregivers and siblings, who also engaged with baylands learning and recreation.

5. Project Documents

- https://www.youtube.com/watch?v=zCodDbix_H4&feature=youtu.be . This is a link to a video that was made in spring 2014 about the Environmental Volunteers. This link was active as of 12/24/2014. It includes footage from the Junior Naturalist program, specifically on their session which focuses on marine ecology:
- Photographs and media coverage below

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Photographs



Photograph 1: Photo of Canoeing the Baylands program participants (Photo by Corinne DeBra)



Photograph 2: Photo of Canoeing the Baylands program participants (Photo by Corinne DeBra)



Photograph 3: Photo of Canoeing the Baylands program as they head towards the EcoCenter (Photo by Corinne DeBra)



Photograph 4: Photo of Junior Naturalist program in action (Photo by Rebecca Gerald)



Photograph 5: Photo of Junior Naturalist program learning how marine life is safely captured for study (Photo by Rebecca Gernaldi)



Photograph 6: Photo of Junior Naturalist program learning how marine life is safely captured for study (Photo by Rebecca Geraldi)



Photograph 7: Photo of Junior Naturalists talking with a Baylands Ranger (Photo by Kristi Moos)



Photograph 8: Photo of Junior Naturalists learning about fish biology (Photo by Judy Kramer)



Photograph 9: Photo of Junior Naturalists observing the marshland (Photo by Unknown)



Photograph 10: Photo of Junior Naturalists learning about fish biology (Photo by Judy Kramer)

Media Coverage

Guided canoe trip at Baylands Nature Preserve gives a rare look at San Francisco Bay ecosystem from the water

By Mark Emmons memmons@mercurynews.com San Jose Mercury News

Posted:

MercuryNews.com

PALO ALTO -- When the bat ray lazily emerged from the murky water, its tipped wings breaking the calm surface, the visitors on nine canoes had one collective reaction.

"Ohhhhhh!" 20 people said at the same time.

It may have been 8-year-old Ira Zweig who first caught sight of the aquatic resident of San Francisco Bay.

"Totally cool," he said.

That also summed up Saturday's Canoeing the Baylands excursion, sponsored by the nonprofit Environmental Volunteers organization, based in Palo Alto. Even better was where the money came from to pull off a glorious, sun-kissed morning at the Baylands Nature Preserve that was free and open to the public.

"We're here thanks to a grant that came out of the Cosco Busan oil spill," Eric McKee, the Environmental Volunteers' education programs coordinator, said after the canoes stopped so participants could more closely examine marshland plant life such as pickleweed and cordgrass.

In other words, something very good resulted from one of the darkest days in recent bay history.

"A tragedy happened that many people might not even remember now," said Kristi Moos, spokeswoman for the Environmental Volunteers. "But these kinds of spills happen every 10 years or so, and they are real threats to the bay. We hope a program like this helps folks understand why it's important to prevent these spills in the future -- and maybe inspire kids to protect the bay."

On Nov. 7, 2007, the 901-foot Cosco Busan container ship was heading from Oakland to South Korea when it brushed a Bay Bridge tower, ripping a 211-foot-long gash in the hull and dumping 53,000 gallons of heavy bunker fuel into the water. The accident significantly fouled 69 miles of shoreline and killed more than 6,800 birds.

Part of the \$44.4 million civil suit settlement, which the ship's owners and operating companies agreed to pay in 2011, went to the National Fish and Wildlife Foundation to enhance public awareness of the bay's thriving ecosystem. The Environmental Volunteers, a 42-year-old organization focused primarily on youth programs, received a nearly \$15,000 grant for initiatives such as Saturday's canoe event.

This trip, which drew a wide range of people from elementary school age to senior citizens, was a rare opportunity to get a guided water tour of the marshland's rich habitat. After all, it's not every day that you get to be up close and personal with bat rays.

"We're used to walking the hills, but not floating around in the water," said Johnny Zweig, 48, of Cupertino, who was there with his son, wife Grace and father-in-law, Kexu Yuan. "It's just a different perspective. It's easy to look at the bay as something that's always in your way when you're trying to get somewhere. But it's really this beautiful, living thing."

After a brief safety chat, complete with making sure life vests were properly secure, the canoeists headed off on the shimmering water into the winding sloughs that were easy to navigate thanks to a high tide.

Aditya Nikumbh, 8, of Palo Alto, shyly said he was looking forward to seeing "birds." But don't be fooled by his quiet demeanor, added his mother.

"He was up early this morning," said Kaveree Kajale, 39. "He was really excited about this."

And he wasn't disappointed because there were plenty of feathered friends to see, including Western Gulls and American Avocets along the shoreline as well as a Turkey Vulture soaring in the blue sky.

This was the second of four planned canoe trips. The first was in early August, done in conjunction with the Boys & Girls Clubs of the Peninsula.

"The kids weren't ready for the trip to end," McKee said. "They didn't want to go back to the dock."

But all good things must come to a close, and as the canoes fought the tide back to the dock Saturday, guide Ashley Finden pointed toward the shore. A solitary Snowy Egret appeared to be watching the meandering progress of the canoes.

Maybe it will be there waiting when the next canoe excursion hits the water.

Another Canoeing the Baylands trip is scheduled for Saturday, September 28. For more information, visit www.evols.org